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ABSTRACT

This paper synthesizes much of the literature concerning physician/patient communication as it relates to patient compliance. Using the theoretical perspective that deals with belief, attitude, intention, and behavior (a perspective generated by Martin Fishbein and Icek Ajzen), a new theoretical orientation for predicting patient compliance is proposed. This orientation examines physician/patient communication behavior during diagnosis, prognosis, and prescription as that behavior affects the patient's compliance, recall, understanding, satisfaction, and anxiety levels. Several predictions related to patient compliance and a number of possible research questions are offered. (RL)

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PHYSICIAN-PATIENT COMMUNICATION AND PATIENT COMPLIANCE:

A THEORETICAL ORIENTATION

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ABSTRACT

This paper synthesizes much of the literature concerned with physician-patient communication and how it relates to patient compliance. Using the theoretical perspective generated by Fishbein and Ajzen dealing with belief, attitude, intention, and behavior, a new theoretical orientation for predicting patient compliance is proposed which incorporates physician-patient communication behavior and a variety of intervening processes. The paper concludes with several predictions related to patient compliance and offers a number of possible research questions for empirical testing.

Physician-Patient Communication and Patient Compliance: A Theoretical Orientation

Health professionals have become increasingly concerned with patient compliance. Many patients simply do not follow the instructions of their physicians. Marston's (1970) review of the patient compliance literature showed that studies have found from 4% to 100% noncompliance rates. While an estimate of a general noncompliance rate among patients is precarious because of the numerous measurement techniques used, Davis (1966) estimated that in general 30-35% of the patients are noncompliant. While there may be some question about the average rate of noncompliance, most researchers agree that there is a definite problem concerning patient compliance (Harper, 1971).

In an effort to understand the problem of noncompliance, numerous variables have been considered in hopes of explaining this phenomenon. Obviously, the patients' recall of the physicians' instructions affects the patients' compliance level (Adler, 1976); therefore, some scholars have looked at ways in which the physician could increase the patients' recall of medical instructions (Kupst, Dresser, Schulman & Paul, 1975; Ley, Bradshaw and Walker, 1973; Ley & Spelman, 1965; Harris, Chapman, Roth & Englund, 1973). Others have found that patient anxiety is related to recall and thus ultimately to compliance (Ley & Spelman, 1965). Another variable related to compliance is the patient's understanding of the prescribed medical treatment. Hulka, Kupper, & Cassel (1975), after interviewing 242 patients, found that on the average, approximately two-thirds of the physician's instructions were

understood by the patients. If the patients lack understanding of the prescribed treatment, it seems reasonable to assume that low compliance can be expected (Hulka, Cassel, Kupper & Burdette, 1976). Finally, many studies show that patient satisfaction is related to patient compliance (Korsch, Gozzi & Francis, 1968; Francis, Korsch & Morris, 1969; Korsch & Negrete, 1972; Freemon, Negrete, Davis & Korsch, 1971). The results of these investigations show that increased satisfaction is correlated with increased compliance, while decreased satisfaction is associated with decreased compliance (Korsch & Negrete, 1972).

A lack of patient compliance, recall, and satisfaction raises questions about the doctor-patient communication process. Some studies have tried to link communication directly to patient compliance with a limited amount of success (Davis, 1968). Other studies have investigated the relationship between communication and patient recall or anxiety which are ultimately related to compliance (Harris et al., 1973; Golden, 1970; Skeet, 1974). Scholars have also studied the relationship between physician communicative behavior and patient understanding and satisfaction (McCorkle, 1976; Korsch et al., 1968).

Two important observations can be made about this research which tries to relate communication to patient behavior. First, communication cannot be directly related to compliance, but numerous intervening variables appear to be associated with communication which ultimately relate to patient compliance. Secondly, the "variables approach" provided a great deal of information about how specific variables (e.g. recall or understanding) are related to communication;

however, the relationship between these variables and how the variables interact to influence compliance remains obscured.

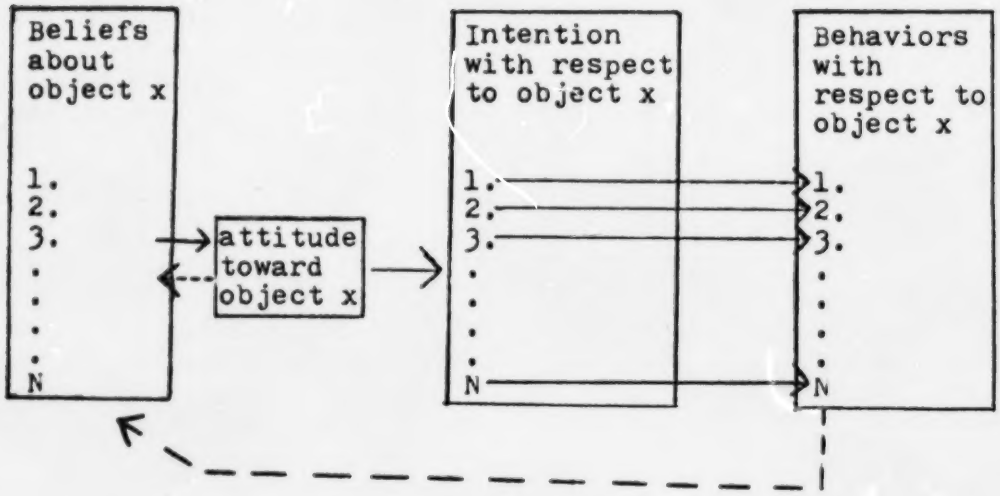
In an effort to clarify the relationship between communication, various intervening variables, and compliance, this paper proposes a theoretical orientation which seeks to explain and predict patient compliance. This theoretical orientation is based on Martin Fishbein and Icek Ajzen's (1975) theory of belief, attitude, intention, and behavior. The Fishbein and Ajzen theory provides one of the most comprehensive accounts of how the interaction of psychological information leads to overt responses. They have sought to integrate many of the existent attitude theories into an interactive model in hopes of creating a highly explanatory and predictive theory.

The foundation of the Fishbein and Ajzen theory is the individual's beliefs about an object. Beliefs are in the cognitive dimension and link attributes to an object. In addition, every belief has an evaluative dimension. Associated with each belief is an evaluation (also known as affect) such as good-bad, like-dislike, etc. According to Fishbein and Ajzen, an attitude is the joining of beliefs and their respective evaluations. They define an attitude as $A_o = \Sigma b_i e_i$. That is, a person's attitude toward an object is the sum of all beliefs about that object multiplied times each evaluation of each individual belief. Attitudes, as well as motivating factors such as the counsel of significant others and the physical ability to act, lead to the individual's intention to take action. Finally, intentions lead to some kind of overt behavior.

A simplified model of Fishbein and Ajzen's theoretical perspectives is presented in Illustration 1. In discussing how this model

ILLUSTRATION 1

Fishbein and Ajzen's Model



_____ influence

-------- feedback

can be applied to physician-patient communication leading ultimately to patient compliance, the relevant information from the Fishbein and Ajzen approach will be expanded and considered in more detail.

Theoretical Orientation

Illustration 2 is a model which represents how physician-patient communicative behavior leads to patient compliance. The discussion which follows considers each element and how it relates to each of the other components.

Physician-Patient Communication

Physician-patient communicative behavior is the conversation carried on by the physician and patient. This is the stimulus-event which the patient experiences. Illustration 2 lays out the effects of this conversation on the patient. Many empirical studies suggest that changing the communicative patterns of the physician or patient affects the patient in various ways (Korsch et al., 1968; Ley & Spelman, 1965; Harris, 1973). While scholars are certain that communicative behavior affects the patient's compliance level, recall level, understanding level, satisfaction level, and anxiety level, what remains in question is the specific relationship between communication and each variable. This model seeks to clarify how the patient is affected by the physician-patient interaction.

Three major areas are discussed during a typical physician-patient interview--diagnosis, prognosis, and prescribed treatment. Initially, the physician conducts the diagnostic portion of the interview where he seeks to determine the nature of the disease or injury through examination. Medical testing procedures are used in

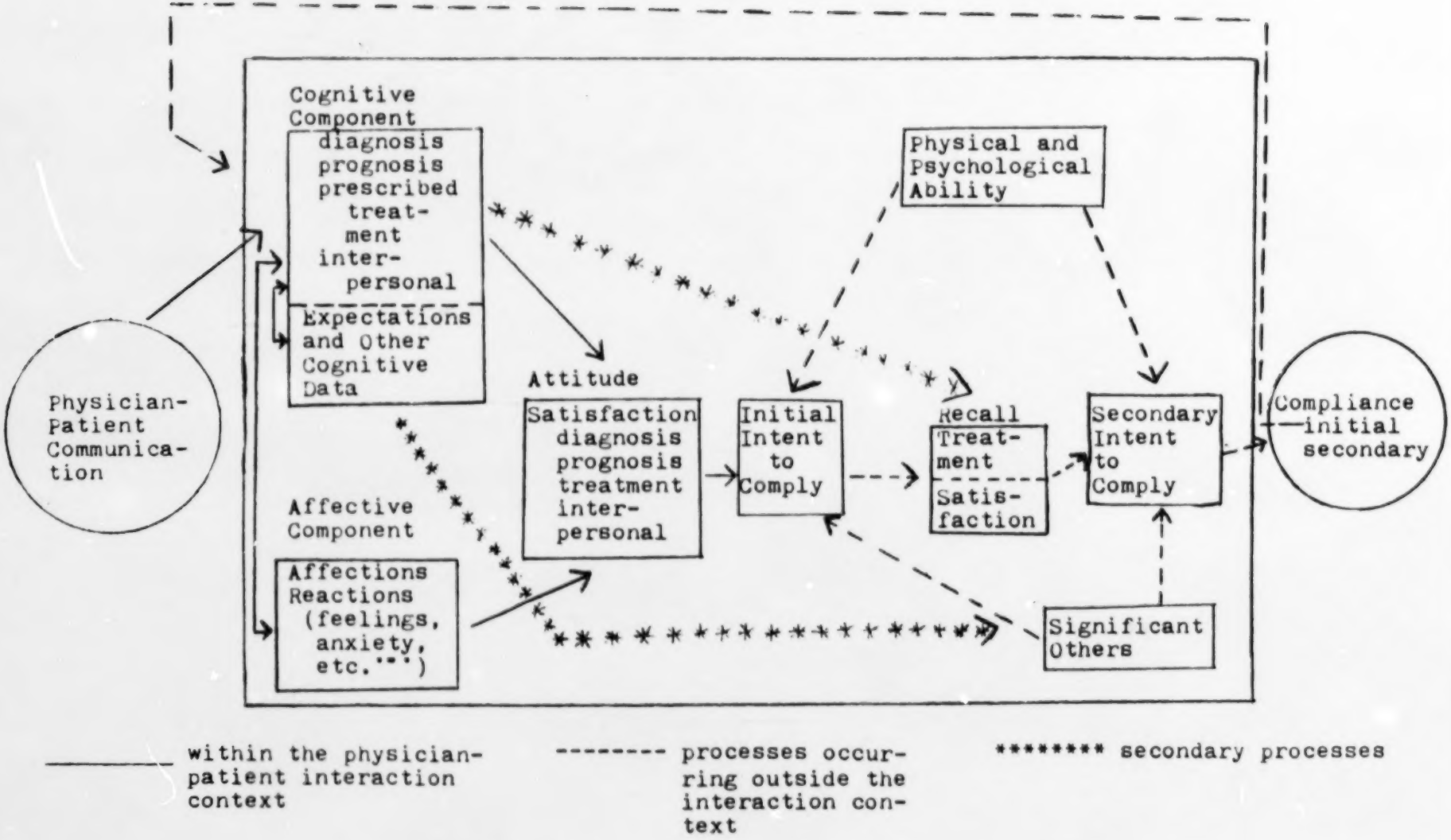


ILLUSTRATION 2: New Theoretical Perspective Model

the examination process. The physician also questions the patient in order to identify potential medical problems. The normal result of the examination is an opinion about the nature and cause of the disease or injury. The physician usually reveals this information to the patient. Following the diagnostic portion of the encounter is a prognosis which is a prediction of the probable course or outcome of the disease or injury. The physician usually informs the patient about what to expect concerning the infirmity. Finally, the physician and patient enter the prescribed treatment phase of the encounter during which the physician informs the patient of what to do about the infirmity. The physician could inform the patient to take a certain pill or to restrict a certain physical activity. The physician may also request that the patient return for more diagnostic testing.

Do these three content areas represent the total communication picture during the physician-patient encounter? Probably not. Most communication scholars distinguish between the content and relationship aspect of the communicative event (De Vito, 1978). The content aspect deals with the subject matter discussed by the participants. In this case, diagnosis, prognosis, and prescribed treatment are the content areas. The relationship aspect deals with the nature of the association between the physician and patient. As the physician and patient talk, they develop feelings about each other and an association between selves. The number of social comments or warmth shown by the physician can influence the relationship. The way something is said or the type of question asked can also influence the relationship. Essentially, the relationship aspect deals with socio-emotional

expressions in the communication event. For instance, a physician remarking, "It is good to see you again, I hope you are feeling fine," may mean that the physician has a sense of affection for the patient which could lead to a warm and friendly interpersonal relationship. On the other hand a physician sternly remarking, "Sit over there, I'll be with you in a moment." may suggest an interpersonal relationship of supreme dominance on the part of the physician or even a physician's dislike of the patient. Thus, the total communication picture must be viewed from the perspective of the three content areas as well as the relational communication aspect. Throughout this paper, this relational aspect is treated as the interpersonal information presented by the physician. These four types of activities make up the communicative event and serve as the stimulus that will eventually lead to patient compliance or noncompliance.

Cognitive Processing

The cognitive process component represents the factual, informational, or mentalistic processes of the patient. The cognitive component also deals with the patient's understanding and recall abilities. As the physician and patient talk, the patient acquires and processes information in four major areas--diagnosis, prognosis, prescribed treatment, and interpersonal. In terms of the diagnosis the patient also finds out the probable cause of his infirmity and receives information about the physician's style of communication, number of friendly comments, and the number of social comments.

The patient's understanding and recall abilities as well as the communication style of the physician affects the way he processes material. Research shows that patients have trouble understanding

medical terms, and the use of medical jargon only increases the problem (Samora, Saunders, & Larson, 1965). The use of abstract medical concepts and explanations hinder understanding as well as recall (Harris et al., 1973). The specific effects of communication on recall are discussed in another section. The important point to emphasize here is that a physician's communication behavior influences understanding and recall accuracy.

Is it important for the patient to understand all the cognitive data presented by the physician? Research has suggested that some of the information is vitally important and must be understood, while other information is less important. The prescribed treatment must be understood in order for the patient to comply (Adler, 1976). A misunderstanding of the prescribed treatment could produce severe problems. A misunderstanding of how many pills to be taken in a day could lead to an overdose. Conversely, scholars have indicated that understanding and recall of the diagnosis and prognosis is not that important (Kupst et al., 1975). This finding does not imply that informing the patient of the diagnosis and prognosis is unimportant. In fact, patients tend to be noncompliant when they feel they are not given adequate information (Kupst, Dresser, Schulman, & Paul, 1976). What is important is that the patient feels he has been given adequate information (Kupst et al., 1975). Thus, in order to maximize compliance, the physician must give the patient diagnostic and prognostic information to the degree that the patient feels he has been given adequate information.

How does the patient develop this feeling of being given adequate information? This feeling is one of the results of the cognitive interfacing process. In order to understand this process it is important to recognize that every patient comes to the physician

with certain cognitive expectations (Skeet, 1974). Cognitive expectations are the patient's anticipation of gaining certain information. While the patient may not always be able to verbalize all his expectations, they are still present in every physician-patient interview. In general, patients anticipate gaining information about their illness (diagnosis and prognosis) and an appropriate treatment. Patients also have some expectations about the interpersonal relationship they will form with the physician. In addition to these specific cognitive expectations, the patient brings to the interview a multitude of other cognitive data. These data include the patient's past medical experiences and past interpersonal contacts. These cognitive data may affect the patient's perception of the doctor or reception of new information.

The patient's expectations and other cognitive data serve as the foundation of the interfacing process. When the physician gives information to the patient, the patient begins the cognitive processes of understanding and initial recall. As the patient processes this information, he compares this information with his expectations. For instance, based on his past interpersonal contacts a patient might expect his physician to ask general questions about his family, his work, etc.; yet the patient notices the doctor does not address any of these topics and deals strictly with medical matters. The patient compares this information with his expectations and concludes that the physician has not followed the pattern he anticipated. This is a cognitive conclusion that is a result of the cognitive interfacing process.

Obviously, the physician's communicative behavior will affect this process. Korsch et al. (1968) showed that 25% of the patients did not mention their greatest concerns or expectations to the physician because they were not encouraged to do so. A question like, "Why did you bring Bill to the clinic today?", encourages the patient to mention his expectations (Korsch et al., 1968). Using communication techniques like this will enable the physician to elicit positive cognitive, affective, and attitudinal responses as a product of the cognitive interfacing process.

Affective Processing

Affective processing deals with the socio-emotional reactions of the patient. Affective reactions of the patient are associated with each factor in the cognitive dimension. That is, the patient develops feelings about the diagnosis, prognosis, treatment, and the physician as a person. If the patient feels that the doctor has not given him sufficient information about the nature of his infirmity or prescribed treatment, or if the patient feels the doctor has not made an effort to relate to him personally, the result is some degree of negative evaluation. In addition, some degree of positive affect can result in each of these areas. Thus, a feeling or socio-emotional reaction has developed directly out of information that was originally dealt with in the cognitive realm.

These feelings may in turn influence how new cognitive data are processed. For example, a patient has just been told he has a serious disease. Anxiety is probably the affective reaction of the patient and will probably affect the patient's reception of any new

information (McIntosh, 1974). Therefore, the affective process is dynamic in that the cognitive processes influence the affective processes and the affective processes exert influence over the cognitive processes.

Attitude

The attitudinal component is where the results of the cognitive and affective processes come together. An attitude is the patient's general disposition toward an object or behavior (Fishbein & Ajzen, 1975) and the physician-patient literature often uses the term "satisfaction" to refer to this component. Satisfaction is the result of a positive evaluation of the various portions of the interview (Adler, 1977). Patients develop satisfaction levels in the four major cognitive components of diagnosis, prognosis, treatment, and interpersonal. Again drawing on the situation where the physician does not exhibit friendliness, the patient processes these new cognitive interpersonal data and associates a negative affective feeling with this cognition, and ultimately develops an attitude of dissatisfaction.

The interpersonal dimension is the major determinant of the patient's overall satisfaction level. Ben-Sira (1976) suggested that the "affective behavior" of the physician is the primary factor in determining patient satisfaction. Ben-Sira's conception of affective behavior is similar to the notion of cognitive processing of interpersonal information discussed earlier. Ben-Sira (1976) insightfully points out the reason for the patient's dependence upon interpersonal information. In general, patients do not have the

technical expertise to judge a physician's competence; therefore, the patient judges the physician's competency upon the basis of the physician's interpersonal behavior.

Violation of interpersonal expectations seems to be a major factor in the creation of dissatisfaction. The investigation at Children's Hospital of Los Angeles showed the effect of different communication styles on satisfaction levels (Korsch & Negrete, 1972). If the physician did not show friendliness or warmth the patients tended to be dissatisfied. Gozzi, Morris, & Korsch (1969) determined that when physicians used blocking communicative styles (i.e. disconfirming responses by the physician) patients tended to be dissatisfied. The present theoretical orientation suggests that as the patient cognitively processes the information (e.g. lack of friendliness or blocking communicative style) by comparing this information with his expectations, the results would be new cognitive data and various affective reactions which would ultimately combine to create a dissatisfied attitude.

In addition to interpersonal dissatisfaction, Skipper (1965) showed that withholding information from the patient can also result in dissatisfaction. If the patient expects to learn what is causing persistent headaches and the doctor does not tell the patient the causes, then the result is dissatisfaction. This type of dissatisfaction would be diagnostic dissatisfaction.

A brief review of the events leading to attitude formation will help explain the dynamic nature of this whole process. From the moment the physician begins talking, the patient begins to compare this information with his expectations. The comparison happens

quickly and the patient may not be aware of the process. The patient acquires new cognitive data and various affective reactions as a result of this cognitive interfacing process. The patient is constantly processing new information as a result of the ongoing conversation with the physician. The patient's affective reactions will influence how the new information is received and processed. On the other hand, the new information will cause new affective reactions. The patient's expectations may even change as a result of the physician's conversation and this change would in turn cause the patient to experience new and different cognitive as well as affective reactions to form the patient's attitude.

Initial Intent

The consequence of the attitudinal dimension is the patient's formation of an initial intention to comply with the physician's directives. The initial intention is formed during the interaction with the physician and represents the final outcome within physician-patient interview context. The intention to comply is the subjective probability that the patient will perform the behavior requested by the physician. The intention is the volitional aspect or otherwise viewed as the internal state of willingness to comply with the physician's instruction.

Several factors influence the development of the patient's initial intention. First is the patient's attitude about the prescribed treatment. If the patient has a highly positive attitude about the treatment, then, in all likelihood, the patient will have a high initial intent to comply. Conversely, if the patient has a

very negative attitude about the treatment, then, in all likelihood, the patient will form a low initial intent to comply.

The patient's attitude about the treatment is not the sole variable effecting compliance. The patient's belief that significant others think he should or should not perform the given behavior will influence the patient's intention level. For instance, a young male patient may be advised to wear a sling on his arm, but he may feel that his friends will ridicule him if he wears the sling. Even if this patient had initially formed a positive attitude, the patient's beliefs about the counsel from significant others would serve to moderate the intent level.

The final factor that will influence the patient's initial intention is the patient's physical and psychological ability to perform the behavior. If the patient physically cannot perform the prescribed behavior, then this fact will have an affect on the intention level. However, just as important as the patient's physical ability is the patient's psychological ability. If the patient psychologically feels he cannot perform the prescribed treatment or that it will take too much effort, then the intent level will be low regardless of his attitude. The compliance literature has repeatedly shown that restrictions in personal habits (e.g. diets) are the most difficult items with which the patient must comply (Francis et al., 1969). Compliance involving restriction of personal habits is difficult because the patient psychologically feels he cannot comply even if he has a positive attitude toward the behavior. Interestingly, prescribing pill treatments often yields higher rates of

patient compliance (Marston, 1970). Compliance is probably higher due to the fact that there is usually not a psychological factor which can moderate the intent level.

In summary, initial intention is the patient's initial formation of willingness to comply with the physician's directives. Initial intention is formed within the context of the interview and is influenced by three factors. The patient's attitude about the behavior (prescribed treatment) acts as the primary influencing factor in forming the initial intent. The patient's beliefs about the counsel he will get from significant others will also influence the intent level. Finally, the patient's physical and psychological abilities will affect the formation of the intent.

Recall

Once the physician-patient interview is concluded, there are still a variety of critical processes which occur outside this communication encounter which influence compliance. One of the most crucial post-interview variables is recall. Recall is summoning back to awareness or recollecting information, feelings or situations (Harris et al., 1973). Obviously, patients may recall many factors related to the interview, but in terms of compliance, the recall of the prescribed treatment and satisfaction appears to be the most important. There is no doubt that for the patient to comply he must understand and recall the physician's instructions (Adler, 1976). Hulka et al. (1975) points out that specific communication items are related to compliance. That is, if the patient can recall he was instructed to take three pills a day, then he will most likely be taking those pills. Hulka et al. (1976) noted that some patients

take pills or do some other medically related activity that the physician did not prescribe. In the strictest sense these patients are non-compliant; however, they were acting on their understanding of the prescribed treatment. Therefore, the recall of the prescribed treatment is intimately associated with the level of compliance.

Several factors effect the recall of the physician's instructions. Joyce, Caple, Mason & Reynolds (1969) suggested that the physician's instructions are one of the most likely items to be forgotten by the patient. Perhaps the anxiety of listening to the prognosis prior to the prescribed treatment can account for this problem. Certainly the memory skill of the patient will also influence the prescribed treatment level. The communication techniques of the physician will influence the patient's recall level. For example, categorizing the treatment has been shown to help the patient's recall (Ley et al., 1973). Abstract medical concepts and explanations have been shown to hinder recall (Harris et al., 1973). Therefore, the patient's cognitive and affective processes as well as the physician's communication techniques will influence the patient's recall of the prescribed treatment.

This discussion does not mean to imply that the patient's recall of the prescribed treatment is the only determinant of the compliance level. The patient's awareness of his satisfaction level will also influence compliance. Some researchers have suggested that the patient's satisfaction level will influence the compliance level (Korsch et al., 1968; Francis et al., 1969). Korsch and Negrete (1972) found that the higher the patient's satisfaction level, the higher the patient's compliance level. On the other hand, if a patient

had low satisfaction, the patient probably did not comply with the physician's directives.

In research done outside the physician-patient communication context, Williams (1976) suggests that with the passage of time people tended to recall their previously formed feelings rather than the information that produced the feelings. These findings also appear to apply to the physician-patient interview. After the encounter with the physician, patients recall their feelings of satisfaction or dissatisfaction frequently but completely or partially forget the cognitive data responsible for creating the affective reaction. For instance, a patient becomes dissatisfied with his doctor because the doctor did not give a prognosis and the patient expected a prognosis. At some later time the patient will most likely remember his dissatisfaction with the doctor and not that the doctor failed to give a prognosis. The recall of satisfaction is important because the patient uses it as a gauge to measure the relative value of the prescribed treatment. If the patient recalls low satisfaction then the treatment probably will not be seen as valuable. Conversely, if the patient recalls high satisfaction then the treatment will be seen as quite valuable.

In summary, recall is effected by the patient's cognitive and affective processes as well as the physician's communicative behavior. In terms of compliance the important recall items are prescribed treatment and satisfaction. Finally, the recall of these two items will act as the immediate antecedents to the patient's formation of the secondary intent to comply.

Secondary Intent to Comply

Secondary intent is similar to initial intent except that secondary intent is the internal willingness to perform the behavior requested which emerges sometime after the physician-patient interview. In contrast to initial intent, secondary intent acts as the direct antecedent condition leading to overt compliance. It is the final internal state of the patient before he complies with the prescribed treatment.

The three factors that influenced the formation of initial intent are similar to the factors that come together to form secondary intent. In the formation of secondary intent, the recall of the treatment and satisfaction performs the same function as the attitude in the formation of initial intent. The recall of the prescribed treatment provides the knowledge to comply, while the recall of satisfaction provides the willingness to comply. The second factor is the counsel from significant others. Outside the physician-patient interaction context the counsel from significant others plays an important role in the formation of intent. If a patient's wife, family, or friends do not support the prescribed treatment, then in all likelihood the patient will probably not form the secondary intent to comply (Adler, 1976). This is why Adler (1976) states that physicians should also stress the importance of compliance to the patient's family. The final factor is the patient's physical and psychological ability to perform the behavior. As in the formation of initial intent, if the patient physically or psychologically feels he cannot perform the prescribed behavior, then the intention level will be lowered. There is also the possibility that a patient

may form an erroneous intent to comply. This would be a result of the patient having low recall of the prescribed treatment. Even if the person has a high intention but low or erroneous recall, the result would be noncompliance to the treatment prescribed by the physician. These different intention levels will directly correspond to the patient's level of compliance.

In summary, this section has dealt with secondary intent. Secondary intent is formed outside the physician-patient interaction context. Secondary intent is formed on the basis of three factors--recall of the treatment and satisfaction, the counsel from significant others,and the physical and psychological ability of the patient. These factors produce different intention levels which act as the immediate antecedent to compliance.

Compliance

Compliance is the ultimate behavior the physician wishes the patient to perform as a result of the interaction with the patient. Patients are considered compliant to the degree that they yield to the wishes of the physician and his requested behavior. For instance, a physician may request that the patient drink two glasses of water every day for a week and take two pills a day. A patient would be highly compliant if he performed each of these bahaviors.

Compliance can be broken down into two parts--initial and secondary. Initial compliance is the patient's first acts of performing the prescribed treatment. Secondary compliance is the compliant behavior performed by the patient after he has received feedback about his initial compliance. This feedback takes the form of

physical feedback such as the continuance of pain. From this theoretical perspective, the feedback leading to secondary compliance would not include another encounter with the physician.

There is an important reason for this distinction between initial and secondary compliance. Scholars have determined that compliance decreases over a period of time, suggesting that the patient's intent has changed (Marston, 1970). Various reasons have been given for this decrease but what is certain is that compliance with the prescribed treatment influences the intent to comply. For instance, if the patient has been complying with the treatment and he remains ill, then the patient may not continue to comply, reasoning that it does not do any good. On the other hand, if the patient has complied and has been healed, then he may reason that the treatment was effective and he does not need to continue to comply (Marston, 1970). Of course this situation is not always the case. The patient may need to continue the prescribed treatment beyond just the disappearance of symptoms. This theoretical orientation would suggest that in both cases, as the patient acquires feedback about his initial compliance, he reprocesses the information and forms or changes his primary intent. The feedback after initial compliance helps explain why compliance decreases over time.

A review of some of the compliance studies presented in light of this theoretical model of compliance demonstrates the explanatory power of the model. For instance, various scholars have found trends of compliance for satisfied patients (Korsch et al, 1968; Francis et al., 1969; Korsch & Negrete, 1972; Freeman et al., 1971; Gozzi et al., 1969). Yet satisfaction cannot totally explain compliance

because a patient could be very satisfied but have low recall of the prescribed treatment and the net result would be low compliance. In a similar way, scholars have found that patients who have their expectations met have a greater tendency to comply, but low recall or negative counsel from significant others could disrupt this compliance tendency (Francis et al., 1969; Cozzi et al., 1969). Conversely, some researchers have found some patients with high recall levels who are non-compliant (Hulka, et al., 1976). The non-compliance could be a result of low satisfaction or the patient feels he can not physically or psychologically perform the prescribed behavior. These few examples demonstrate ways in which this model can explain the results of previous research.

Predictions Suggested by the Model

Davis (1966) was one of the first scholars to note that communication was related to compliance; however, the precise manner in which communication effected compliance was not fully clarified. The theoretical orientation presented in this paper has sought to articulate more completely how patients progress from a communication encounter with the physician to compliance. The following statements are offered as predictions which emerge from this explanatory model:

1. Patients are highly compliant when all the following conditions are met:
   a) The patient has a high intent level
   b) The patient has a high satisfaction level
   c) The patient has a high treatment recall level
   d) The patient has received positive counsel from significant others to perform the treatment
   e) The patient feels that he can physically and psychologically perform the treatment

2. Low compliance is a result of any of the following conditions:
   a) The patient has a low intent level

b) The patient has low recall of the prescribed treatment
c) The patient has erroneous recall of the prescribed treatment

3. The patient will have a low secondary level of intent when any of the following conditions occur:

   a) The patient feels that he physically or psychologically cannot perform the behavior
   b) The patient receives negative counsel from significant others concerning the prescribed treatment
   c) The patient recalls a low satisfaction level

4. The patient will have a high secondary intent level when all the following conditions occur:

   a) The patient feels he physically and psychologically can perform the prescribed treatment
   b) The patient receives positive counsel from significant others concerning the prescribed treatment
   c) The patient recalls a high satisfaction level
   d) The patient has high recall of the prescribed treatment

5. The communication patterns of the physician will indirectly affect the compliance level of the patient. More specifically:

   a) The communication patterns of the physician will affect the patient's recall of the prescribed treatment.
   b) The communication patterns of the physician will affect the patient's satisfaction level. More specifically:

      1) Physicians who actively deal with the patient's expectations will have satisfied patients.
      2) The patient's overall satisfaction level will be influenced primarily by the physician's interpersonal communication style.

Research Questions Suggested by the Model

The basic predictions presented above suggest numerous research questions. Some of these critical questions are presented below:

1. What communication patterns are associated with high patient satisfaction and low patient satisfaction?
2. What communication patterns are associated with high patient recall and low patient recall?
3. Are the communication patterns associated with high satisfaction and high recall complimentary or antagonistic?
4. If the physician categorizes his remarks will the patient's recall level be increased?
5. Will asking the patient to repeat the physician's remarks about the prescribed treatment increase recall?

6. How can the doctor best determine a patient's expectations? Are there certain communicative techniques that will help the doctor determine the patient's expectations?
7. How can the doctor determine if the patient feels he cannot psychologically perform the prescribed treatment? How can the communication scholar help at this point?
8. What is the effect of significant others between the time of the patient's initial compliance and secondary compliance? What communicative strategies can be used by the physician to influence significant others?
9. Since compliance decreases over time, can the physician improve secondary compliance by talking to the patient a few days after the medical interview?

Answers to these questions and others stimulated by the theoretical perspective presented in this paper should improve our understanding of the physician-patient relationship and give us answers to the nagging question, "What can the doctor say to the patient to increase the patient's compliance level?"

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